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TESTING
CNAS L0446

GRGTEST

Page 1 of 34

Test Report

Verified code: 244462

Report No.: E20240506136401-11

Customer: Lumi United Technology Co., Ltd

Address: Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

Sample Name: Vibration Sensor T1

Sample Model: VB-S01D

Receive Sample Date: May.10, 2024

Test Date: May.11,2024 ~ May.11,2024

Reference Document: AS/NZS 4268:2017

Test Result: Pass

Prepared by: Wen Wenwen
Wen Wenwen

Reviewed by: Wu Haoting
Wu Haoting

Approved by: Xiao Liang
Xiao Liang

GRG METROLOGY & TEST GROUP CO., LTD.

Issued Date: 2024-09-02

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E20240506136401-11	Original Issue	2024-08-31

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1. TEST RESULT SUMMARY

Test Item	Test mode	Test Requirement	Test Method	Test Result
1. Transmitter Part				
Maximum EIRP	Mode 1	AS/NZS 4268:2017 Clause 6.3	ETSI EN 300 328 V2.2.2/5.4.2.2.1	PASS
Power Spectral Density	Mode 1	AS/NZS 4268:2017 table 1 row 59	ANSI IEEE C63.10-2020 section 11.10	PASS
Occupied Channel Bandwidth & Operating frequency	Mode 1	AS/NZS 4268:2017 Clause 6.5 and Clause 6.6	ETSI EN 300 328 V2.2.2/5.4.7.2.1	PASS
Transmitter spurious emissions	Mode 1	AS/NZS 4268:2017 Clause 6.4	ETSI EN 300 328 V2.2.2/5.4.9.2.2	PASS
2. Receiver Part				
Receiver spurious emissions	Mode 2	AS/NZS 4268:2017 Clause 7.2	ETSI EN 300 328 V2.2.2/5.4.10.2.2	PASS

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2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT INFORMATION

Name: Lumi United Technology Co., Ltd
Address: Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.2 MANUFACTURER

Name: Lumi United Technology Co., Ltd
Address: Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.3 BASIC DESCRIPTION OF EUT

Equipment: Vibration Sensor T1
Model No.: VB-S01D
Adding Model: /
Trade Name: Aqara
Power Supply: 3.0V DC supplied by button cell
Battery Specification: CR2032 3.0V DC
Frequency Band: 2405MHz-2480MHz
Modulation Type: O-QPSK
Antenna Specification: PCB printed antenna with 2dBi gain (Max)
Sample submitting way: Provided by customer Sampling
Sample No: E20240506136401-0001, E20240506136401-0003, E20240506136401-0004
Temperature Range: -10 °C ~ 50 °C
Hardware Version: V1.0
Software Version: V1.0.0.1
Note: The EUT antenna gain is provided by the applicant. This report is made solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions.

2.4 TEST MODE

Test mode 1: Zigbee fixed transmitting mode

Test mode 2: Zigbee receiving mode

2.5 FREQUENCY BAND AND THE TEST FREQUENCY

Channel No.	Frequency (MHz)						
*11	2405	12	2410	13	2415	14	2420
15	2425	16	2430	17	2435	*18	2440
19	2445	20	2450	21	2455	22	2460
23	2465	24	2470	25	2475	*26	2480

* is the test frequency.

2.6 DESCRIPTION OF EQUIPMENT

The type of modulation used by the equipment	<input type="checkbox"/> FHSS	<input checked="" type="checkbox"/> Non-FHSS				
Adaptive / non-adaptive equipment	<input checked="" type="checkbox"/> Non-adaptive Equipment	<input checked="" type="checkbox"/> adaptive Equipment without the possibility to switch to a non-adaptive mode	<input type="checkbox"/>	adaptive Equipment which can also operate in a non-adaptive mode		
The equipment has an implemented	<input type="checkbox"/> Frame Based equipment	<input type="checkbox"/> Load Based equipment	<input type="checkbox"/> non-LBT based DAA mechanism	<input checked="" type="checkbox"/> other		
Antenna Gain	<input checked="" type="checkbox"/> Antenna1 2dBi	<input type="checkbox"/> Antenna 2 dBi	<input type="checkbox"/> Antenna 3 dBi	<input type="checkbox"/> Antenna 4 dBi		
Beamforming Gain	<input type="checkbox"/> Yes, dBi	<input checked="" type="checkbox"/> No				
Extreme operating conditions	<input checked="" type="checkbox"/> Operating temperature range:	<input checked="" type="checkbox"/> Min -10°C	<input checked="" type="checkbox"/> Max +50°C			

3. LABORATORY AND ACCREDITATIONS

3.1 LABORATORY

The tests and measurements refer to this report were performed by Shenzhen EMC Laboratory of GRG METROLOGY & TEST GROUP CO., LTD.

Add : No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District Shenzhen,
518110, People's Republic of China
P.C. : 518110
Tel : 0755-61180008
Fax : 0755-61180008

3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

China CNAS(L0446)

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4. MEASUREMENTS UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in ETSI EN TR 100 028-1 (i.15) and ETSI EN 100 028-2(i 8):

Measurement	Frequency	Uncertainty
Radiated Emission	30MHz~200MHz	4.0dB
	200MHz~1000MHz	4.1dB
	1GHz~12.75GHz	4.9dB
	30MHz~1000MHz	3.9dB
	200MHz~1000MHz	4.2dB
	1GHz~12.75GHz	5.0dB

Measurement	Uncertainty
RF frequency	6.0×10^{-6}
RF power conducted	0.78dB
Occupied channel bandwidth	0.40dB
Unwanted emission, conducted	0.68dB
Humidity	6%
Temperature	2°C

Note:

- ¹⁾ This uncertainty represents an expanded uncertainty expressed at approximately the 95%.
 This uncertainty represents an expanded uncertainty factor of $k=2$.

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5. EQUIPMENT AND TOOLS USED DURING TEST

5.1 TEST EQUIPMENT AND TOOLS

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Maximum EIRP & Maximum e.i.r.p. spectral density & occupied channel bandwidth & Operating frequency				
Simultaneous sampling DAQ	TONSCEND	JS0806-2	21B8060365	2024-12-28
High and low temperature humid heat test chamber	FC	FPHC-23AW-40	FD202306015	2024-09-10
Spectrum Analyzer	R&S	FSW43	102072	2024-07-09
BT/WIFI System	TONSCEND	JS1120-3		
Transmitter spurious emissions & Receiver spurious emissions				
Spectrum Analyzer	Keysight	N9010A	MY55370330	2024-09-08
Spectrum Analyzer	R&S	FSV3044	101184	2024-08-11
Bi-log Antenna	Schwarzbeck	VULB9163	01279	2025-02-04
Horn Antenna	Schwarzbeck	BBHA9120D	02499	2024-08-26
Amplifier	Tonscend	TAP9E6343	AP20E806065	2025-03-01
Amplifier	Tonscend	TAP01018048	AP20E8060076	2025-03-01
Amplifier	Tonscend	TAP037030	AP20E8060081	2025-03-01
Test software	Tonscend	JS36-RSE/5.0.0.1		

Note: The calibration interval of the above test instruments is 12 months.

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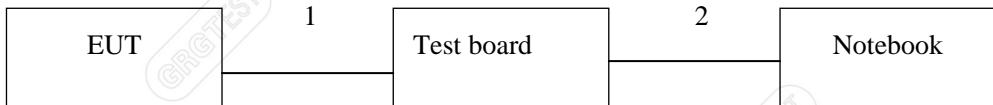
5.2 LOCAL SUPPORTIVE INSTRUMENTS

No.	Name of Equipment	Manufacturer	Model	Serial Number	Note
A	Notebook	DELL	Latitude 3400	CY0GJW2	2#
B	Test board	/	/	/	Test board

No.	Cable Type	Qty.	Shielded Type	Ferrite Core(Qty.)	Length
1	serial cable	1	No	No	0.2m
2	USB-MINI cable	1	No	No	0.5m

Note: The notebook is just used to produce fixed frequency transmitting.

5.3 CONFIGURATION OF SYSTEM UNDER TEST



Test software:

Software version	Test level
QCOM_V1.0	2405MHz: 7.75 2440MHz: 7.75 2480MHz: 7.75

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6. RADIO TECHNICAL REQUIREMENT SPECIFICATION

6.1 MAXIMUM EIRP

Test Requirement: AS/NZS 4268:2017 Clause 6.3

Test Method: ETSI EN 300 328 V2.2.2/5.4.2.2.1

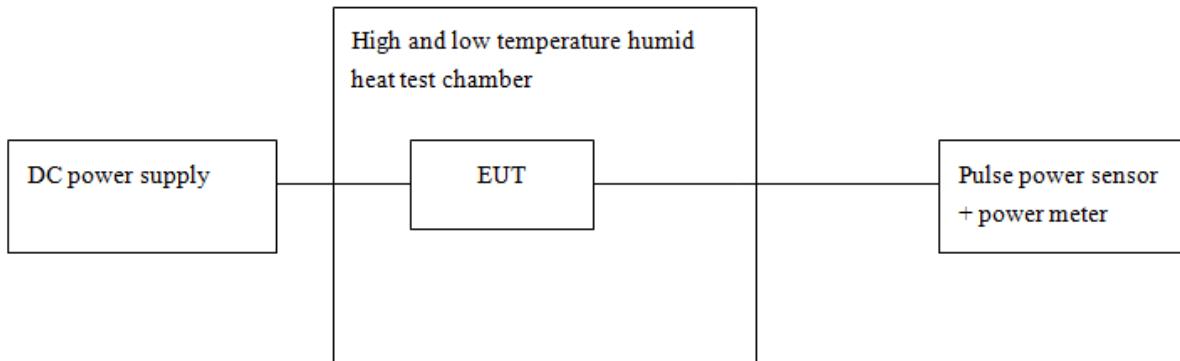
6.1.1 LIMIT

For adaptive equipment, the maximum RF output power shall be 20 dBm.

The maximum RF output power for non-adaptive equipment shall be declared by the manufacturer and shall not exceed 20 dBm. See clause 5.4.1 m). For non-adaptive equipment, the maximum RF output power shall be equal to or less than the value declared by the manufacturer.

This limit shall apply for any combination of power level and intended antenna assembly.

6.1.2 TEST CONFIGURATION



6.1.3 TEST PROCEDURES

Test procedure: Test procedure is according to Clause 5.3.2.2.1 of ETSI EN 300 328 V2.2.2

Test channel: Lowest channel, Middle channel, Highest channel for Zigbee

Test condition: Normal and extreme test conditions.

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6.1.4 TEST RESULTS

Test Date (yy-mm-dd): 2024-05-11

Test environment: Normal condition: 26.3°C/59%RH/101.0kPa

Extreme test conditions: Low Temp: -10°C
High Temp: +50°C

Test By: Qin tingting

Test Condition	Test Mode	Antenna	Test Frequency (MHz)	EIRP[dBm]	Limit[dBm]	Verdict
Normal temperature/ Normal voltage	ZigBee	Ant1	2405	9.80	20	PASS
			2440	9.77	20	PASS
			2480	9.63	20	PASS
Low temperature/ Normal voltage	ZigBee	Ant1	2405	9.80	20	PASS
			2440	9.75	20	PASS
			2480	9.60	20	PASS
High temperature/ Normal voltage	ZigBee	Ant1	2405	9.80	20	PASS
			2440	9.68	20	PASS
			2480	9.62	20	PASS

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6.2 POWER SPECTRAL DENSITY

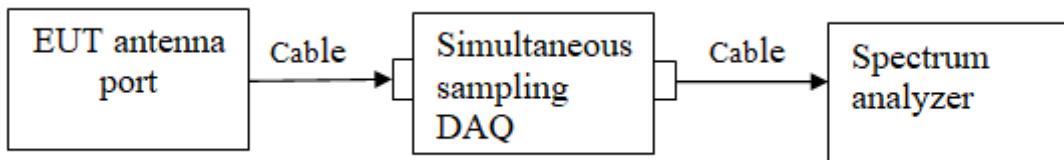
Test Requirement: AS/NZS 4268:2017 table 1 row 59

Test Method: ANSI IEEE C63.10-2020 section 11.10

6.2.1 LIMIT

The radiated peak power spectral density in any 3kHz is limited to 25mW per 3kHz.

6.2.2 TEST CONFIGURATION



6.2.3 TEST PROCEDURES

Test condition: Normal test conditions

Test channel: Lowest channel, Middle channel, Highest channel for Zigbee

Test procedure: Test procedure is according to Clause 5.4.3.2.1 of ETSI EN 300 328 V2.2.2

Remark: /

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6.2.4 TEST RESULTS

Test Date (yy-mm-dd): 2024-05-11

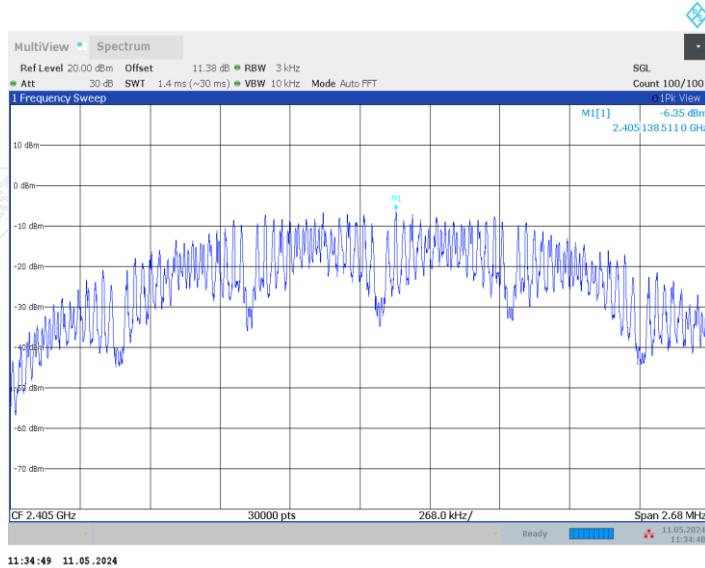
Test environment: Normal condition:

26.3°C/59%RH/101.0kPa

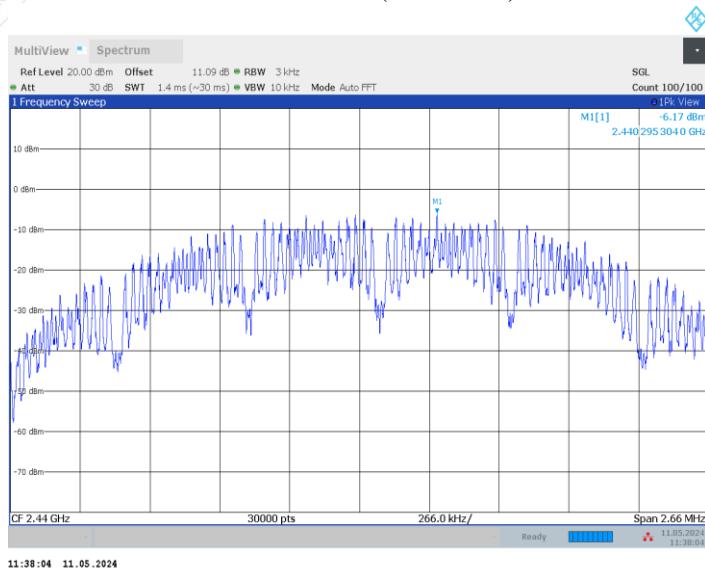
Test By: Qin tingting

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Lowest	2405	-6.35	8.00	Pass
Middle	2440	-6.17	8.00	Pass
Highest	2480	-5.71	8.00	Pass

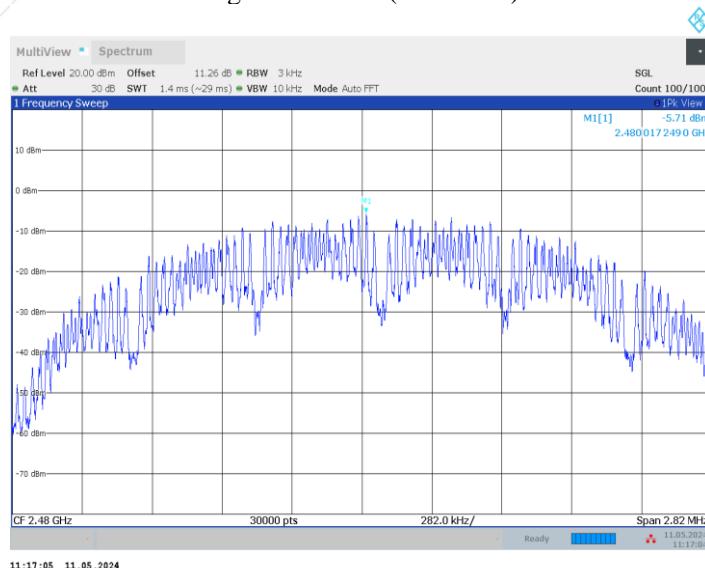
Lowest channel (2405MHz)



Middle channel (2440 MHz)



Highest channel (2480MHz)



6.3 OCCUPIED CHANNEL BANDWIDTH & OPERATING FREQUENCY

Test Requirement: AS/NZS 4268:2017 Clause 6.5 and Clause 6.6

Test Method: ETSI EN 300 328 V2.2.2/5.4.7.2.1

6.3.1 LIMIT

This requirement applies to all types of non-FHSS equipment.

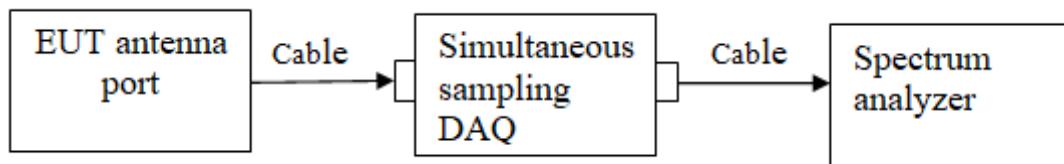
The Occupied Channel Bandwidth shall fall completely within the band given in table 2.

In addition, for non-adaptive equipment using wide band modulations other than FHSS and with e.i.r.p. greater than 10 dBm, the occupied channel bandwidth shall be less than 20 MHz.

Table 2: Service frequency bands

	Service frequency bands
Transmit	2 400 MHz to 2 483,5 MHz
Receive	2 400 MHz to 2 483,5 MHz

6.3.2 TEST CONFIGURATION



6.3.3 TEST PROCEDURES

Test condition: Normal test conditions.

Test channel: Lowest channel, Middle channel, Highest channel for Zigbee

Test procedure: Test procedure is according to Clause 5.4.7.2.1 of ETSI EN 300 328 V2.2.2

6.3.4 TEST RESULTS

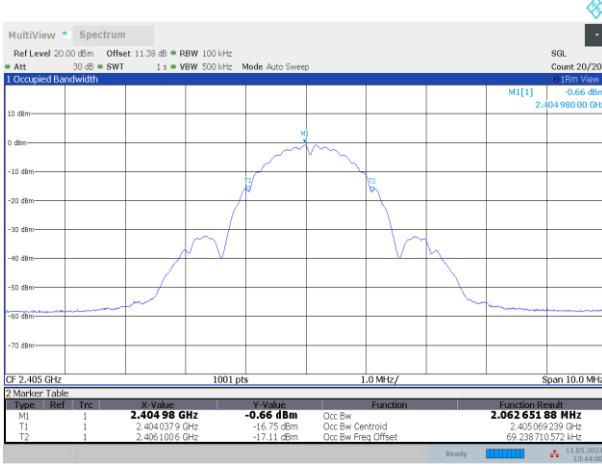
Test Date (yy-mm-dd): 2024-05-11

Test environment: Normal condition:

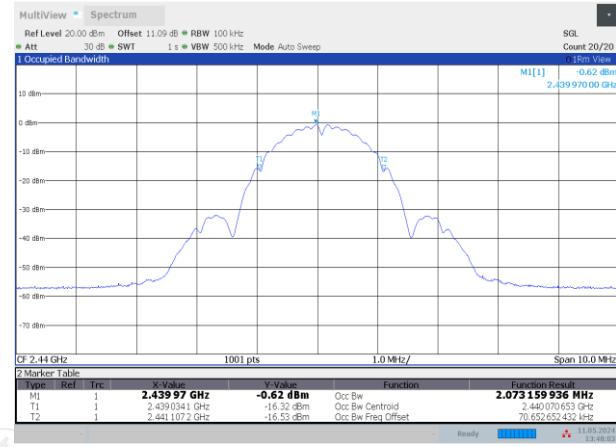
26.3°C/59%RH/101.0kPa

Test By: Qin Tingting

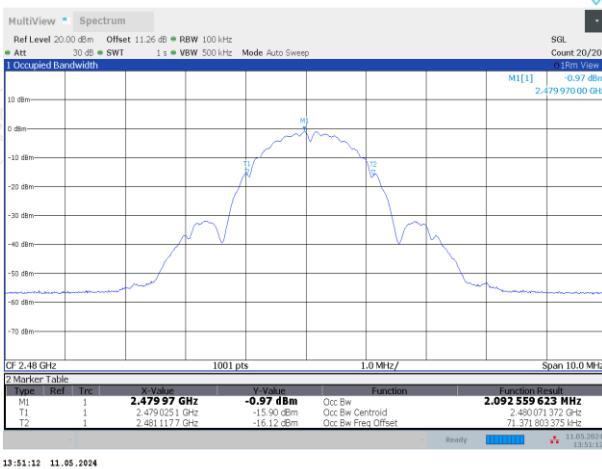
Test Mode	Frequency [MHz]	OCB[MHz]	F _L [MHz]	F _H [MHz]	Limit[MHz]	Verdict
ZigBee	2405	2.063	2404.0379	2406.1006	2400 to 2483.5	PASS
	2440	2.073	2439.0341	2441.1072	2400 to 2483.5	PASS
	2480	2.093	2479.0251	2481.1177	2400 to 2483.5	PASS



Lowest Frequency: 2405MHz



Middle Frequency: 2440MHz



Highest Frequency: 2480MHz

6.4 TRANSMITTER SPURIOUS EMISSIONS

Test Requirement: AS/NZS 4268:2017 Clause 6.4

Test Method: ETSI EN 300 328 V2.2.2/5.4.9.2.2

6.4.1 LIMIT

This requirement applies to all types of non-FHSS equipment.

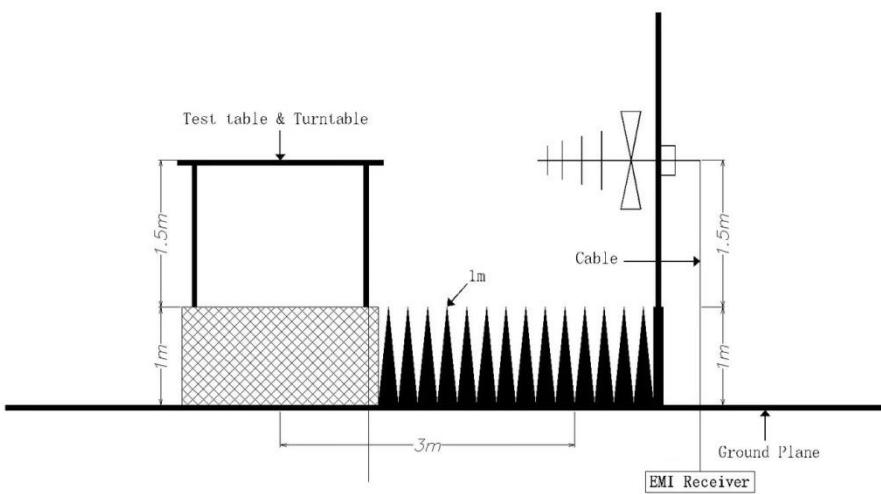
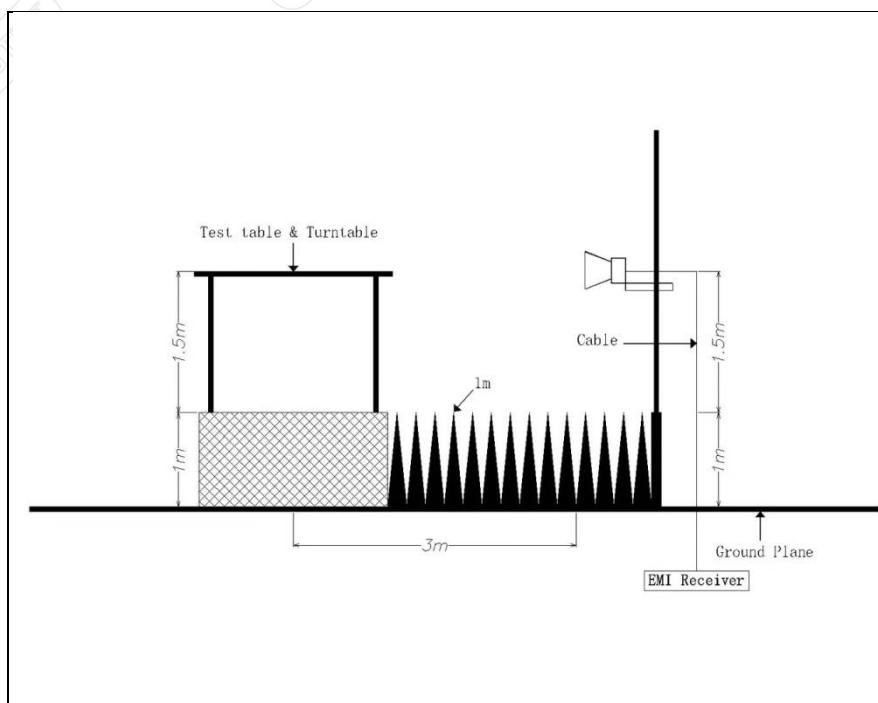
The transmitter unwanted emissions in the spurious domain shall not exceed the values given in table 2. In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and as e.i.r.p. for emissions above 1 GHz.

Table 2: Transmitter limits for spurious emissions

Frequency range	Maximum power	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87,5 MHz	-36 dBm	100 kHz
87,5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 694 MHz	-54 dBm	100 kHz
694 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 12,75 GHz	-30 dBm	1 MHz

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6.4.2 TEST CONFIGURATION

30MHz~1000MHz**1000MHz~12750MHz**

6.4.3 TEST PROCEDURES

- Test condition: Mode 1
- Test channel: Lowest channel: (2405MHz), Highest channel: (2480MHz)
- Test procedure: Test procedure is according to Clause 5.4.9.2.1 of ETSI EN 300 328 V2.2.2
- Remark: Pre-test all data rate and channel, tested and recorded the worst case data.

6.4.4 DATA SAMPLE

Frequency [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
XXX	-49.71	-57.90	-30.00	27.90	-8.19	RMS	Horizontal

Frequency (MHz) = Emission frequency in MHz

Reading (dBm) = Uncorrected Analyzer / Receiver reading

Level (dBm) = Reading (dBm) + Factor (dB)

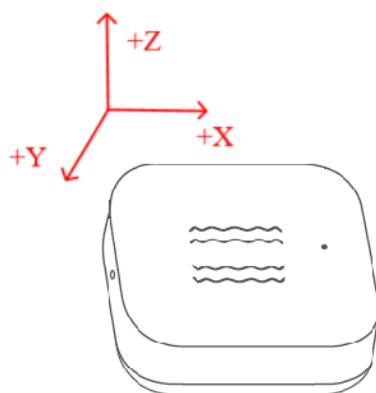
Limit (dBm) = Limit stated in standard

Margin (dB) = Limit(dBm) - Level (dBm)

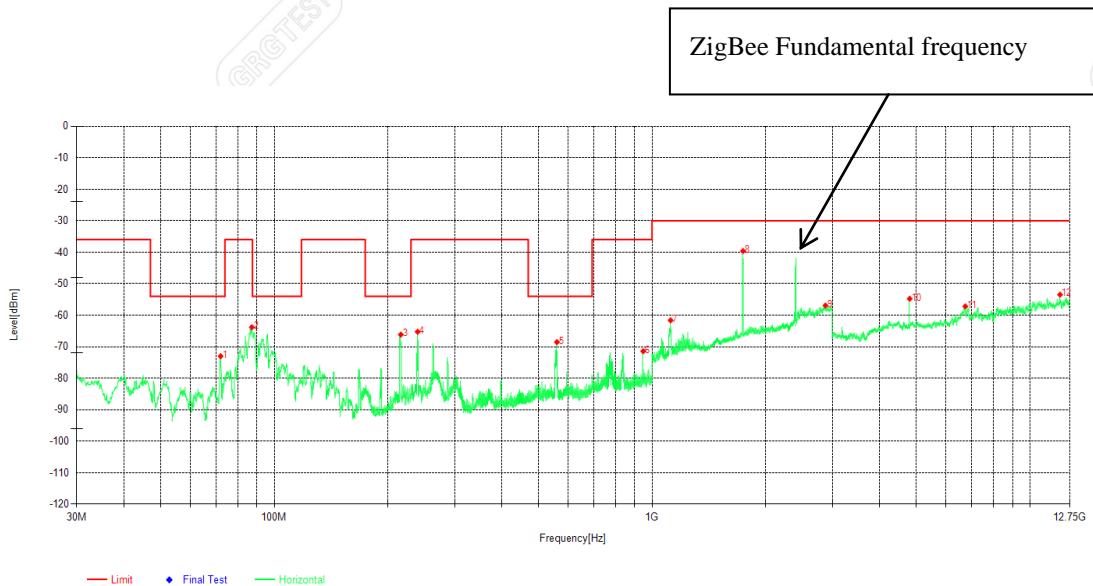
RMS = Root Mean Square

6.4.5 TEST RESULTS

The test are under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown the X position only.

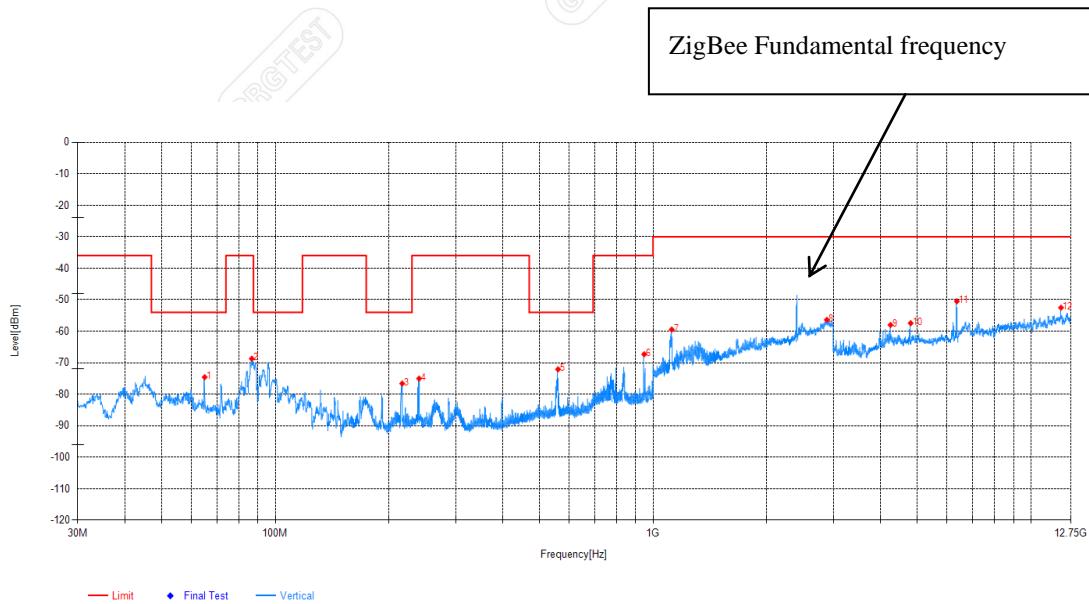


Model:	VB-S01D	Sample No:	E20240506136401-0003
Mode:	Mode 1_2405MHz	Voltage:	DC 3V
Environment:	24.4 °C/59%RH/101.0kPa	Engineer:	Wen wenwen
Test Date:	2024-05-11	/	/



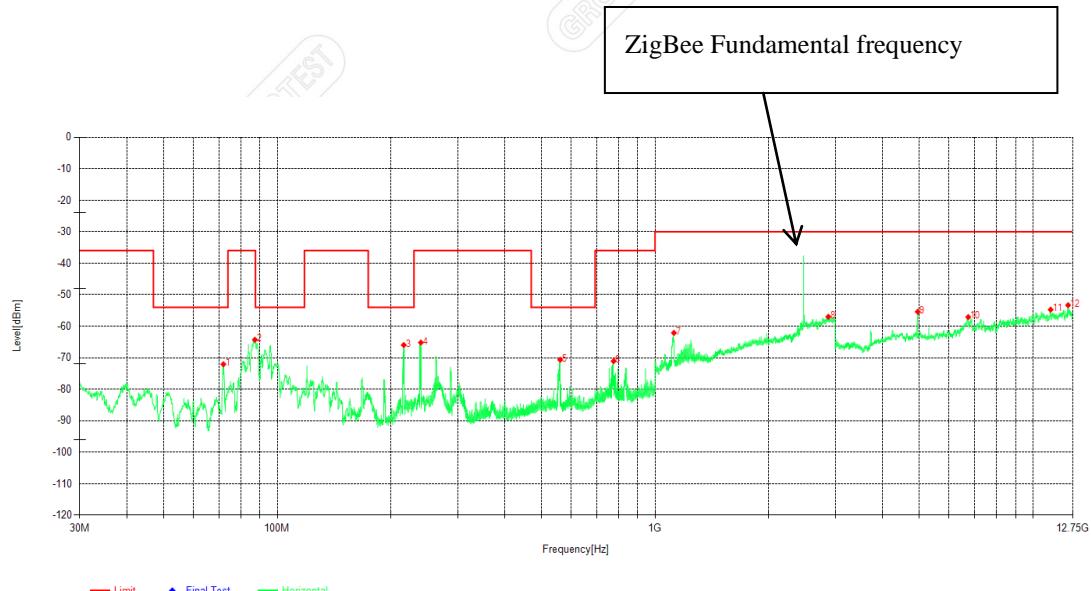
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	72.098	-51.39	-72.99	-54.00	18.99	-21.60	RMS	Horizontal
2	87.23	-45.06	-63.81	-36.00	27.81	-18.75	RMS	Horizontal
3	216.24	-48.82	-66.14	-54.00	12.14	-17.32	RMS	Horizontal
4	239.617	-48.93	-65.25	-36.00	29.25	-16.32	RMS	Horizontal
5	560.202	-59.36	-68.52	-54.00	14.52	-9.16	RMS	Horizontal
6	947.62	-68.41	-71.42	-36.00	35.42	-3.01	RMS	Horizontal
7	1120	-59.61	-61.62	-30.00	31.62	-2.01	RMS	Horizontal
8	1741.6	-45.57	-39.61	-30.00	9.61	5.96	RMS	Horizontal
9	2877.2	-69.92	-56.90	-30.00	26.90	13.02	RMS	Horizontal
10	4810.575	-52.86	-54.76	-30.00	24.76	-1.90	RMS	Horizontal
11	6747.9	-63.09	-57.17	-30.00	27.17	5.92	RMS	Horizontal
12	12023.625	-66.55	-53.46	-30.00	23.46	13.09	RMS	Horizontal

Model:	VB-S01D	Sample No:	E20240506136401-0003
Mode:	Mode 1_2405MHz	Voltage:	DC 3V
Environment:	24.4°C/59%RH/101.0kPa	Engineer:	Wen wenwen
Test Date:	2024-05-11	/	/



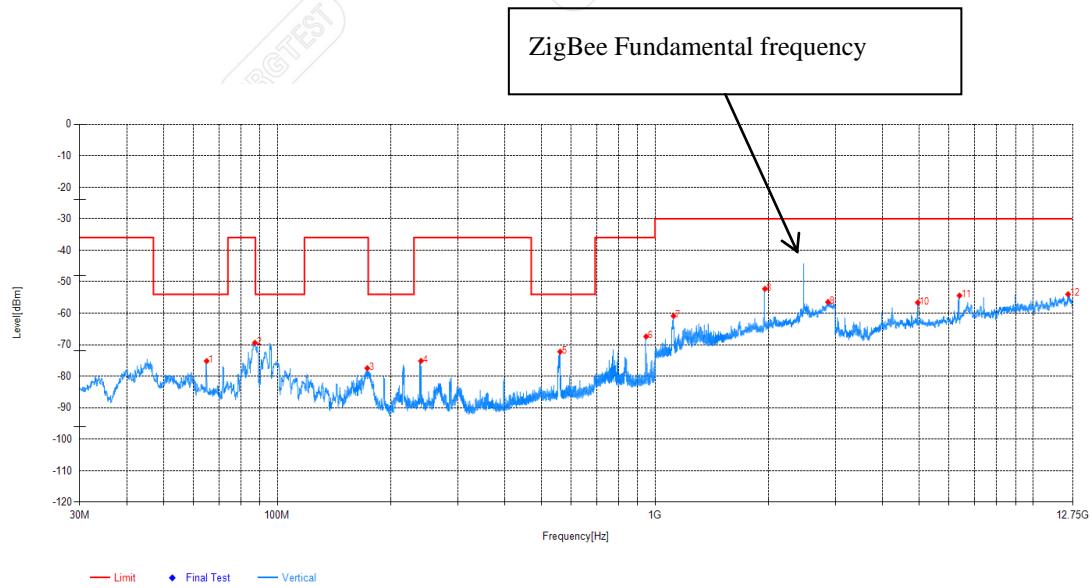
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	65.017	-59.34	-74.58	-54.00	20.58	-15.24	RMS	Vertical
2	86.648	-48.39	-68.70	-36.00	32.70	-20.31	RMS	Vertical
3	216.725	-59.08	-76.59	-54.00	22.59	-17.51	RMS	Vertical
4	240.199	-59.56	-75.02	-36.00	39.02	-15.46	RMS	Vertical
5	560.299	-62.56	-72.09	-54.00	18.09	-9.53	RMS	Vertical
6	947.62	-64.42	-67.31	-36.00	31.31	-2.89	RMS	Vertical
7	1120.6	-57.90	-59.47	-30.00	29.47	-1.57	RMS	Vertical
8	2884.6	-69.90	-56.39	-30.00	26.39	13.51	RMS	Vertical
9	4253.85	-55.92	-58.01	-30.00	28.01	-2.09	RMS	Vertical
10	4809.6	-55.73	-57.43	-30.00	27.43	-1.70	RMS	Vertical
11	6371.55	-52.06	-50.48	-30.00	20.48	1.58	RMS	Vertical
12	12028.5	-65.83	-52.53	-30.00	22.53	13.30	RMS	Vertical

Model:	VB-S01D	Sample No:	E20240506136401-0003
Mode:	Mode 1_2480MHz	Voltage:	DC 3V
Environment:	24.4°C/59%RH/101.0kPa	Engineer:	Wen wenwen
Test Date:	2024-05-11	/	/



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	72.001	-50.49	-72.06	-54.00	18.06	-21.57	RMS	Horizontal
2	87.23	-45.55	-64.30	-36.00	28.30	-18.75	RMS	Horizontal
3	216.143	-48.66	-65.98	-54.00	11.98	-17.32	RMS	Horizontal
4	239.908	-48.88	-65.18	-36.00	29.18	-16.30	RMS	Horizontal
5	560.881	-61.53	-70.65	-54.00	16.65	-9.12	RMS	Horizontal
6	776.512	-65.70	-71.09	-36.00	35.09	-5.39	RMS	Horizontal
7	1121.8	-60.15	-62.11	-30.00	32.11	-1.96	RMS	Horizontal
8	2875.4	-70.09	-56.98	-30.00	26.98	13.11	RMS	Horizontal
9	4960.725	-54.35	-55.39	-30.00	25.39	-1.04	RMS	Horizontal
10	6745.95	-62.99	-57.09	-30.00	27.09	5.90	RMS	Horizontal
11	11153.925	-67.54	-54.73	-30.00	24.73	12.81	RMS	Horizontal
12	12398.025	-66.04	-53.32	-30.00	23.32	12.72	RMS	Horizontal

Model:	VB-S01D	Sample No:	E20240506136401-0003
Mode:	Mode 1_2480MHz	Voltage:	DC 3V
Environment:	24.4°C/59%RH/101.0kPa	Engineer:	Wen wenwen
Test Date:	2024-05-11	/	/



Suspected Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	65.017	-59.95	-75.19	-54.00	21.19	-15.24	RMS	Vertical
2	87.23	-49.20	-69.38	-36.00	33.38	-20.18	RMS	Vertical
3	172.978	-59.50	-77.45	-36.00	41.45	-17.95	RMS	Vertical
4	240.005	-59.70	-75.14	-36.00	39.14	-15.44	RMS	Vertical
5	560.687	-62.72	-72.22	-54.00	18.22	-9.50	RMS	Vertical
6	947.62	-64.50	-67.39	-36.00	31.39	-2.89	RMS	Vertical
7	1119.2	-59.22	-60.86	-30.00	30.86	-1.64	RMS	Vertical
8	1954.6	-59.38	-52.26	-30.00	22.26	7.12	RMS	Vertical
9	2871.6	-70.21	-56.45	-30.00	26.45	13.76	RMS	Vertical
10	4960.725	-55.70	-56.61	-30.00	26.61	-0.91	RMS	Vertical
11	6396.9	-56.07	-54.39	-30.00	24.39	1.68	RMS	Vertical
12	12402.9	-66.65	-53.96	-30.00	23.96	12.69	RMS	Vertical

6.5 RECEIVER SPURIOUS EMISSIONS

Test Requirement: AS/NZS 4268:2017 Clause 7.2

Test Method: ETSI EN 300 328 V2.2.2/5.4.10.2.2

6.5.1. LIMIT

The spurious emissions of the receiver shall not exceed the values given in table 3.

In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or for emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p for emissions up to 1 GHz and e.i.r.p for emissions above 1 GHz.

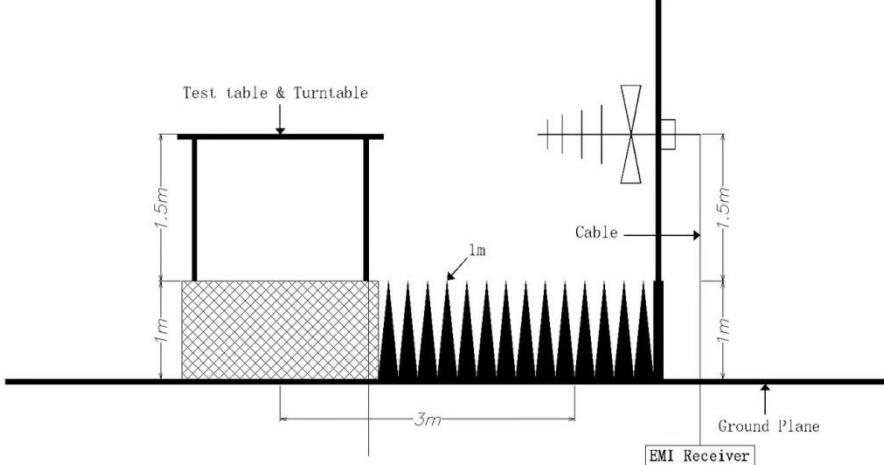
This device uses Radiated measurement.

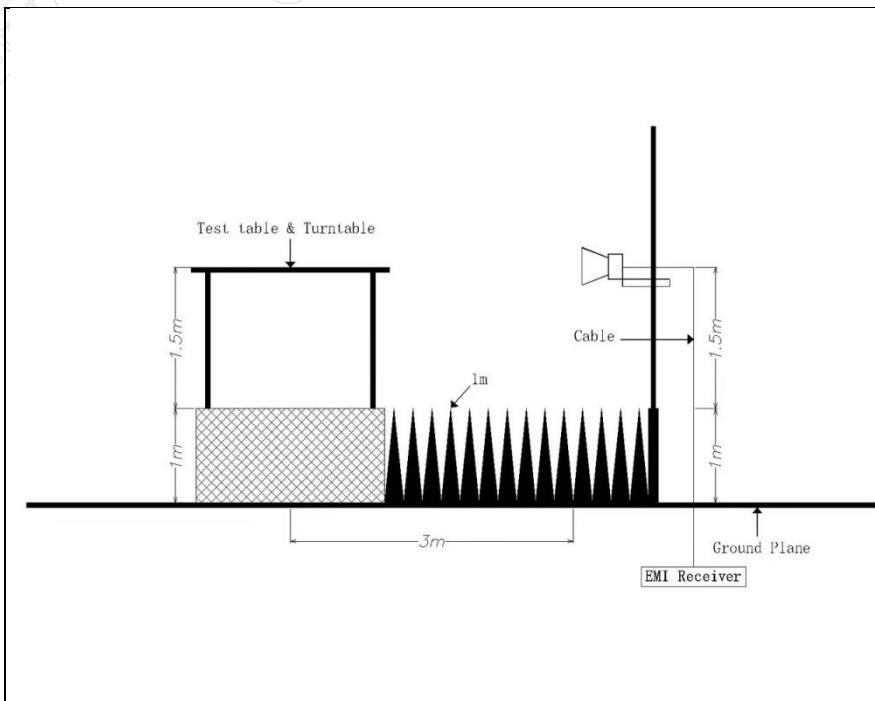
Table 3: Spurious emission limits for receivers

Frequency range	Maximum power	Bandwidth
30 MHz to 1 GHz	-57 dBm	100 kHz
1 GHz to 12,75 GHz	-47 dBm	1 MHz

6.5.2. TEST CONFIGURATION

30MHz-1000MHz



1000MHz-12750MHz**6.5.3. TEST PROCEDURES**

Test channel: Lowest channel: (2405MHz), Highest channel: (2480MHz)

Test condition: Mode 2

Test procedure: Test procedure is according to Clause 5.4.10.2.2 of ETSI EN 300 328 V2.2.2

Remark: /

6.5.4. DATA SAMPLE

Frequency [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
XXX	-58.02	-73.33	-57.00	16.33	-15.31	RMS	Horizontal

Frequency (MHz) = Emission frequency in MHz

Reading (dBm) = Uncorrected Analyzer / Receiver reading

Level (dBm) = Reading (dBm) + Factor (dB)

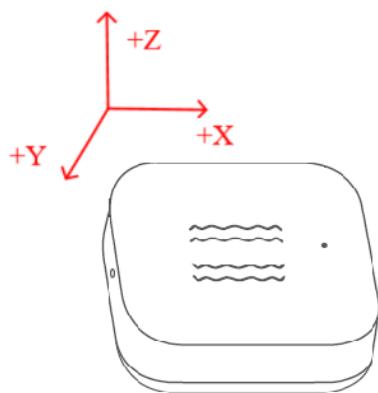
Limit (dBm) = Limit stated in standard

Margin (dB) = Limit(dBm) - Level (dBm)

RMS = Root Mean Square

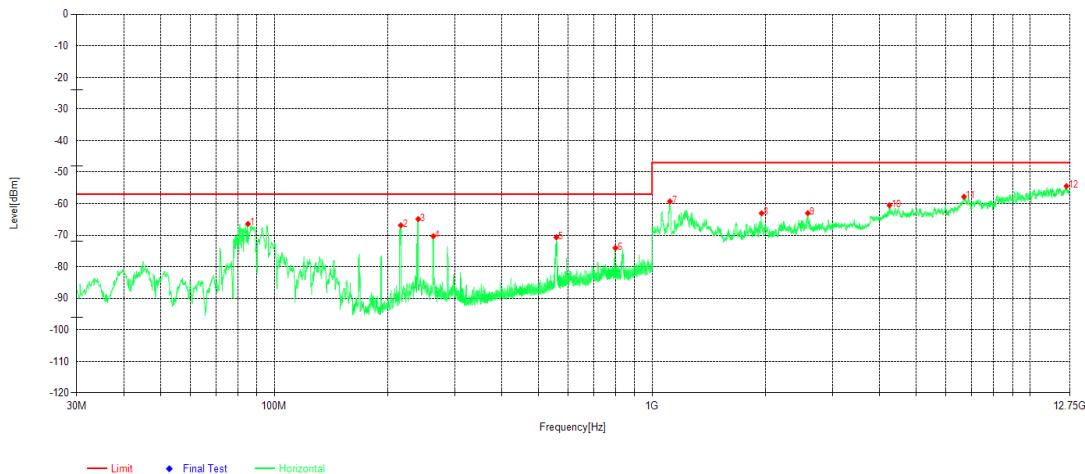
6.5.5. TEST RESULTS

The test are under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown the X position only.



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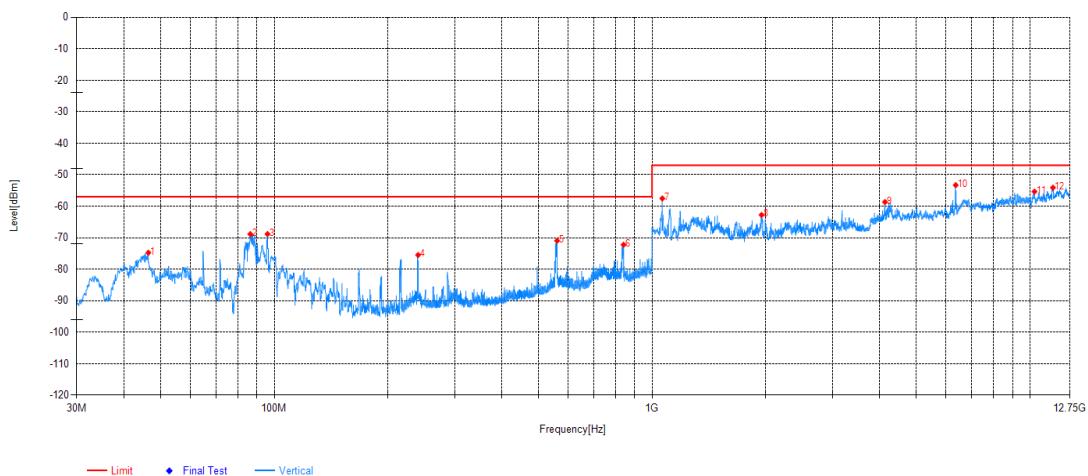
Model:	VB-S01D	Sample No:	E20240506136401-0003
Mode:	Mode 2_2405MHz	Voltage:	DC 3V
Environment:	24.4 °C/59%RH/101.0kPa	Engineer:	Wen wenwen
Test Date:	2024-05-11	/	/



Suspected Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	85.193	-46.34	-66.42	-57.00	9.42	-20.08	RMS	Horizontal
2	216.046	-49.53	-66.85	-57.00	9.85	-17.32	RMS	Horizontal
3	240.393	-48.60	-64.88	-57.00	7.88	-16.28	RMS	Horizontal
4	263.576	-55.36	-70.31	-57.00	13.31	-14.95	RMS	Horizontal
5	557.971	-61.44	-70.67	-57.00	13.67	-9.23	RMS	Horizontal
6	799.695	-68.60	-74.04	-57.00	17.04	-5.44	RMS	Horizontal
7	1115.15	-45.06	-59.29	-47.00	12.29	-14.23	RMS	Horizontal
8	1950.575	-51.23	-63.04	-47.00	16.04	-11.81	RMS	Horizontal
9	2585.075	-53.32	-62.99	-47.00	15.99	-9.67	RMS	Horizontal
10	4251.225	-58.54	-60.51	-47.00	13.51	-1.97	RMS	Horizontal
11	6697.575	-63.12	-57.80	-47.00	10.80	5.32	RMS	Horizontal
12	12510.3	-69.06	-54.44	-47.00	7.44	14.62	RMS	Horizontal

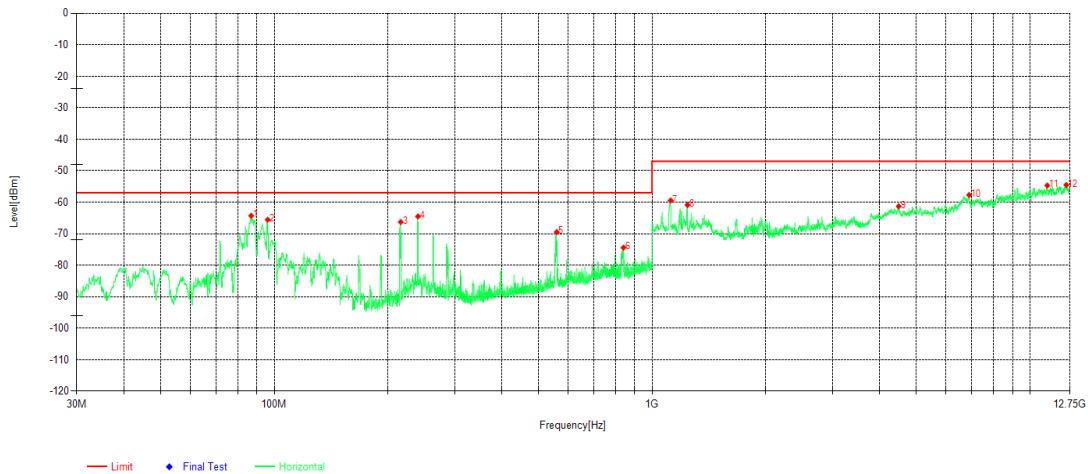
Model:	VB-S01D	Sample No:	E20240506136401-0003
Mode:	Mode 2_2405MHz	Voltage:	DC 3V
Environment:	24.4°C/59%RH/101.0kPa	Engineer:	Wen wenwen
Test Date:	2024-05-11	/	/



Suspected Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	46.393	-61.12	-74.75	-57.00	17.75	-13.63	RMS	Vertical
2	86.357	-48.49	-68.85	-57.00	11.85	-20.36	RMS	Vertical
3	95.96	-49.50	-68.82	-57.00	11.82	-19.32	RMS	Vertical
4	240.199	-60.01	-75.47	-57.00	18.47	-15.46	RMS	Vertical
5	560.299	-61.43	-70.96	-57.00	13.96	-9.53	RMS	Vertical
6	840.241	-67.77	-72.23	-57.00	15.23	-4.46	RMS	Vertical
7	1064.625	-44.41	-57.54	-47.00	10.54	-13.13	RMS	Vertical
8	1949.4	-51.01	-62.77	-47.00	15.77	-11.76	RMS	Vertical
9	4134.9	-55.63	-58.65	-47.00	11.65	-3.02	RMS	Vertical
10	6365.05	-54.93	-53.30	-47.00	6.30	1.63	RMS	Vertical
11	10291.9	-67.18	-55.35	-47.00	8.35	11.83	RMS	Vertical
12	11516.25	-67.91	-54.10	-47.00	7.10	13.81	RMS	Vertical

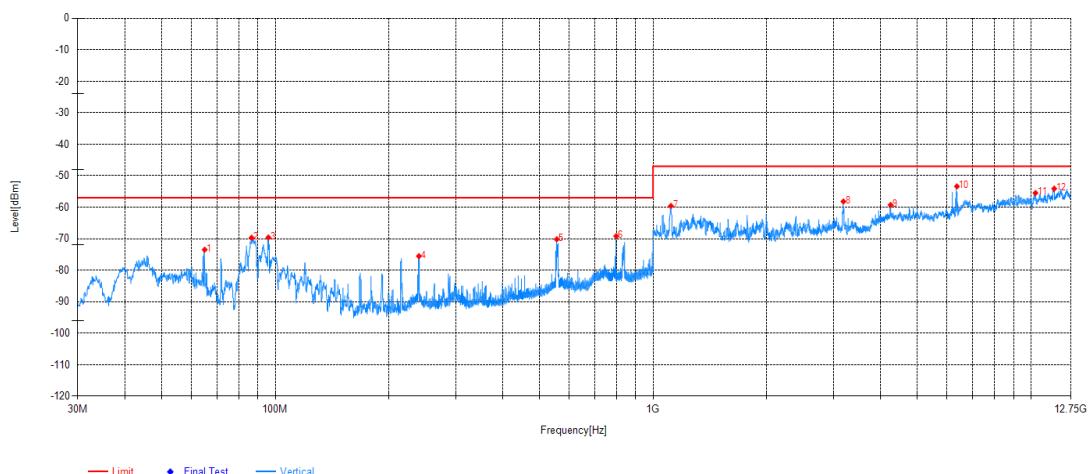
Model:	VB-S01D	Sample No:	E20240506136401-0003
Mode:	Mode 2_2480MHz	Voltage:	DC 3V
Environment:	24.4°C/59%RH/101.0kPa	Engineer:	Wen wenwen
Test Date:	2024-05-11	/	/



Suspected Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	86.842	-45.30	-64.30	-57.00	7.30	-19.00	RMS	Horizontal
2	96.057	-48.66	-65.55	-57.00	8.55	-16.89	RMS	Horizontal
3	216.046	-48.96	-66.28	-57.00	9.28	-17.32	RMS	Horizontal
4	240.005	-48.22	-64.51	-57.00	7.51	-16.29	RMS	Horizontal
5	559.232	-60.25	-69.44	-57.00	12.44	-9.19	RMS	Horizontal
6	840.338	-69.72	-74.42	-57.00	17.42	-4.70	RMS	Horizontal
7	1119.85	-45.22	-59.46	-47.00	12.46	-14.24	RMS	Horizontal
8	1240.875	-47.75	-60.88	-47.00	13.88	-13.13	RMS	Horizontal
9	4496.8	-60.29	-61.30	-47.00	14.30	-1.01	RMS	Horizontal
10	6907.9	-63.26	-57.72	-47.00	10.72	5.54	RMS	Horizontal
11	11128.5	-67.42	-54.70	-47.00	7.70	12.72	RMS	Horizontal
12	12493.85	-69.15	-54.51	-47.00	7.51	14.64	RMS	Horizontal

Model:	VB-S01D	Sample No:	E20240506136401-0003
Mode:	Mode 2_2480MHz	Voltage:	DC 3V
Environment:	24.4°C/59%RH/101.0kPa	Engineer:	Wen wenwen
Test Date:	2024-05-11	/	/

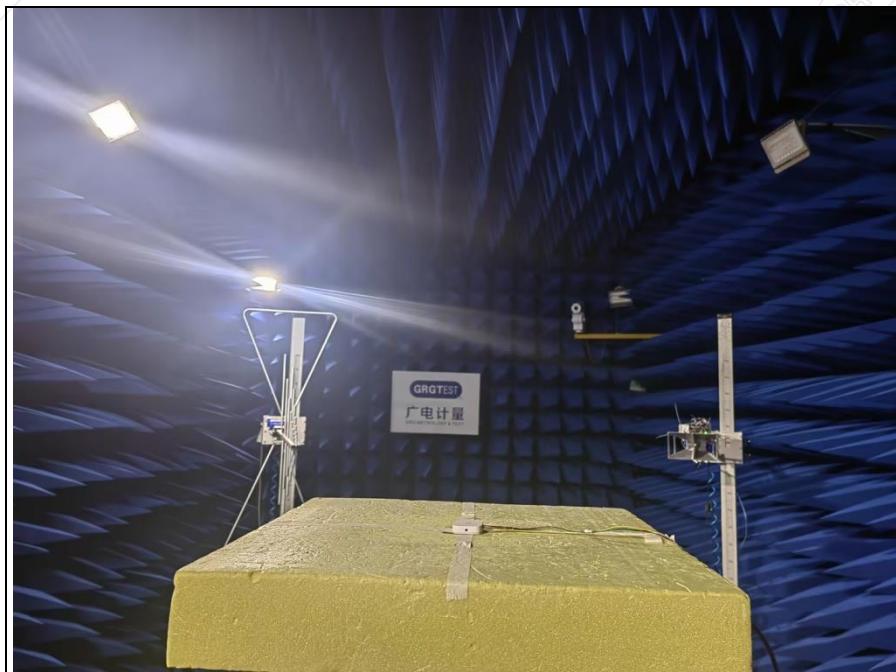


Suspected Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	65.017	-58.23	-73.47	-57.00	16.47	-15.24	RMS	Vertical
2	86.551	-49.35	-69.68	-57.00	12.68	-20.33	RMS	Vertical
3	95.863	-50.28	-69.60	-57.00	12.60	-19.32	RMS	Vertical
4	240.005	-60.09	-75.53	-57.00	18.53	-15.44	RMS	Vertical
5	556.128	-60.57	-70.17	-57.00	13.17	-9.60	RMS	Vertical
6	798.628	-63.94	-69.18	-57.00	12.18	-5.24	RMS	Vertical
7	1115.15	-45.72	-59.57	-47.00	12.57	-13.85	RMS	Vertical
8	3191.375	-51.15	-58.16	-47.00	11.16	-7.01	RMS	Vertical
9	4254.75	-57.42	-59.27	-47.00	12.27	-1.85	RMS	Vertical
10	6374.45	-55.00	-53.39	-47.00	6.39	1.61	RMS	Vertical
11	10293.075	-67.32	-55.47	-47.00	8.47	11.85	RMS	Vertical
12	11531.525	-67.97	-54.09	-47.00	7.09	13.88	RMS	Vertical

APPENDIX A TOGRAPH OF THE TEST CONNECTION DIAGRAM

Radiated Spurious Emission



APPENDIX B. PHOTOGRAPHS OF EUT

Please refer to the attached document E20240506136401-EUT photo.

----- End of Report -----